

Claim Amendments:

This listing of claims will replace all prior versions, and listings of claims in the application:

1. (Currently Amended) A method ~~of generating a number~~, comprising:
sampling a signal at intervals to acquire data samples having a data sample sequence order;
obtaining a generated bit for at least one of the data samples by:
generating a bit with ~~of~~ a first value when the at least one data sample if a
phenomena is represented as by an odd variable, and
generating a bit with ~~of~~ a second value when the at least one data sample if
the phenomena is represented as by an even variable; and
concatenating the generated bit with at least one additional generated bit in an
order that is independent from the data sample sequence order.
2. (Currently Amended) The method of claim 1, wherein the data samples comprise a first data sample and a second data sample, wherein a first generated bit corresponds to the first data sample and a second generated bit corresponds to the second data sample; and wherein the first generated bit and the second generated bit are concatenated in an order different from the order that the first data sample and the second data sample were sampled.
~~further comprising steps of:~~
~~repeating the step of generating a bit to obtain more than one bit; and concatenating the bits to form a new number.~~
3. (Currently Amended) The method of claim 1, wherein the data sample sequence order comprises a sequence of data samples having an order $(X_1, X_2, X_3, \dots X_n)$; and wherein there is a sequence of generated bits $(Y_1, Y_2, Y_3, \dots Y_n)$ with each generated bit corresponding to a respective data sample in the sequence of data samples ~~2, further comprising a step of arranging the bits before concatenating the bits.~~

4. (Currently Amended) The method of claim 3, wherein the generated bits are concatenated in an order that is different from the order of their respective data samples 2, further comprising a step of:

~~taking measurements of the phenomena at intervals, in which each of the measurements provides one variable for use in generating one bit.~~

5. (Currently Amended) The method of claim 1 [4], in which the signal is generated from measurements are taken with respect to a changeable reference.

6. (Currently Amended) The method of claim 1 [4], in which the multiple bits are generated from non-successive intervals measurements.

7. (Currently Amended) The method of claim 4, in which the data samples measurements are positional errors.

8. (Currently Amended) The method of claim 1, in which the signal variable comprises a position error signal.

9. (Currently Amended) A system for ~~generating a number~~, comprising:

a detector configured to sample a signal to acquire data samples having a data sample sequence order ~~translate a detected phenomena into one or more quantitative measurements~~; and

a generator configured to generate a bit with of a first value when if a selected data sample quantitative measurement is odd and to generate a bit with of a second value when if the selected data sample quantitative measurement is even and further configured to generate a number by concatenating the generated bit with at least one additional generated bit in an order that is independent from the data sample sequence order.

10. (Currently Amended) The system of claim 9, wherein the data samples comprise a first data sample and a second data sample, wherein a first generated bit corresponds to the first data sample and a second generated bit corresponds to the second data sample; and wherein the first generated bit and the second generated bit are concatenated in an order different from the order that the first data sample and the second data sample were sampled ~~in which the generator is further configured to form a new number by concatenating the bits generated.~~

11. (Currently Amended) The system of claim 9, wherein the data sample sequence order comprises a sequence of data samples having an order $(X_1, X_2, X_3, \dots, X_n)$; and wherein there is a sequence of generated bits $(Y_1, Y_2, Y_3, \dots, Y_n)$ with each generated bit corresponding to a respective data sample in the sequence of data samples and wherein the generated bits are concatenated in an order that is different from the order of their respective data samples ~~10, in which the generator is further configured to arrange bits for concatenation.~~

12. (Currently Amended) The system of claim 9 ~~10~~, further comprising a device host ~~host~~ for receiving the ~~new~~ number from the generator.

13. (Currently Amended) The system of claim 12, in which the ~~new~~ number is used for controlling access to the device host ~~host~~.

14. (Currently Amended) The system of claim 12, in which the generator is part of a data storage device ~~associated with the host~~, and in which the ~~new~~ number is used for controlling access to the data storage device.

15. (Currently Amended) The system of claim 9, further A data storage device, comprising:

a disc having at least one track; and

a head ~~heads~~ configured to read or write substantially along the track; ~~and~~

~~the system of claim 9, in which the detectors comprises the heads.~~

16. (Currently Amended) The system ~~data-storage device~~ of claim 15 in which the signal ~~phenomena~~ relates to the position of the head ~~heads~~ relative to the track.

17. (Currently Amended) The system ~~data-storage device~~ of claim 16 in which the signal is a ~~quantitative measurements include~~ position error signal ~~signals~~.

18. (Currently Amended) The system ~~data-storage device~~ of claim 16 in which the data samples ~~quantitative measurements~~ are taken with reference to at least one previously defined track.